

APPENDIX Z

VOICE IMPROVEMENT PROCESSOR (VIP)

BACKUP AND RECOVERY PROCEDURES

Introduction

This document contains the backup and recovery procedures for the NWR CRS VIP. These procedures shall be used by all CRS sites to ensure adequate backup of critical VIP system software, application software, and other critical files. Procedures for the recovery of these same data are also included herein.

There are three critical pieces of software contained in the VIP:

1. **Red Hat Linux Version 7.3** - This is the operating system. The VIP cannot be booted if it is not installed.
2. **Speechify Version 2.1.5 (developed by Speechworks)** - This is the text-to-speech engine that generates the improved voice. This version of the Speech Engine includes the following three voices:

Tom - Male English voice (Version 2.1)

Donna - Female English voice (Version 2.1)

Javier - Male Spanish voice (Version 2.1)

3. **VIP Version 3.1** - This is "wrapper" software that serves as the interface between CRS and Speechify and also contains the user interface.

The documentation package each site will receive from NWSHQ will contain the following media:

1. **Six (6) operating system CDs** - These contain the VIP disk image including the operating system and the Speechify software. These are labeled *VIP OS Restore #1 - #6* CDs. These CDs also include the VIP Version 3.0.1 software; therefore, no separate set of application software CDs are necessary.

The recovery philosophy of VIP is that if the hard drive becomes corrupted, the operating system and application software can be recovered by loading the disk image CDs.

The VIP contains two sets of dictionaries that need to be backed up to diskette:

1. **Substitution Dictionaries** - These contain the site specific substitution entries used by the pre-processor to modify the input text. Effective with VIP Version 3.0.1, each voice (Tom, Donna, and for those sites with a Spanish license, Javier) has its own separate dictionary

that must be backed up. Therefore, there are 2 or 3 substitution dictionaries that must be backed up.

2. **Local Dictionaries** - These contain the site specific pronunciations necessary to properly voice text information. Effective with VIP Version 3.0.1, each voice (Tom, Donna, and for those sites with a Spanish license, Javier) has its own separate dictionary that must be backed up. Therefore, there are 2 or 3 local dictionaries that must be backed up.

NOTE: These dictionaries should be saved to diskette whenever they are altered.

The following scenarios describe typical operational occurrences and the appropriate backup or recovery procedure(s) that need to be performed:

Z-1 Typical Operational Occurrences

Scenario 1 - Operating System Failure

In this scenario, the VIP cannot be booted, and it is suspected that the operating system has become corrupted. Re-load the operating system from the disk image CDs, configure the site specific information, install the SSH authorization keys, and restore all the Substitution and Local Dictionaries from their respective diskettes. Perform Procedures 1, 2, 5, and 6.

Scenario 2 - VIP Software Failure

In this scenario, the VIP and/or Speechify software will not execute, and it is suspected that the VIP and/or Speechify software has become corrupted. Since there is no separate set of VIP 3.1 application CDs, re-load the operating system from the disk image CDs, configure the site specific information, install the SSH authorization keys, and restore all the Substitution and Local Dictionaries from their respective diskettes. Perform Procedures 1, 2, 5, and 6.

Scenario 3 - Substitution Dictionary Modification

In this scenario, changes have been made to the Substitution Dictionary for one or more of the voices. The new dictionary(ies) need(s) to be saved to diskette(s). Perform Procedure 3.

Scenario 4 - Local Dictionary Modification

In this scenario, changes have been made to the Local Dictionary for one or more of the voices. The new dictionary(ies) need(s) to be saved to diskette(s). Perform Procedure 4.

Scenario 5 - Substitution Dictionary Destruction or Corruption

In this scenario, the Substitution Dictionary for one or more voices has been destroyed or corrupted. Recover the backup dictionary(ies) from diskette(s). Perform Procedure 5.

Scenario 6 - Local Dictionary Destruction or Corruption

In this scenario, the Local Dictionary for one or more voices has been destroyed or corrupted. Recover the backup dictionary(ies) from the diskette(s). Perform Procedure 6.

Scenario 7 - VIP Is Unresponsive to Commands

In this scenario, the operator is unable to elicit a response from the VIP (it is “frozen”). A power down without a proper shutdown may cause operating system problems necessitating a complete hard drive restore. Instead, perform Procedure 7.

Z-1.1 Procedure 1 - Recover Operating System and VIP Application and Establish Site Specific Configuration

- NOTE:**
1. This procedure will take about 60 minutes to complete.
 2. The hard drive image includes both the OS and the VIP Build 3.1 application. To restore the hard drive image, use the VIP OS Restore the new VIP OS Restore CDs numbered 1 through 6. The old VIP OS Restore diskettes numbered 1 through 3 are no longer necessary. VIP OS Restore diskette #4 will remain as the bootable diskette used if the VIP is unable to boot from the hard drive. Upon successful restoration of the hard drive image, store the new VIP OS Restore CDs in a safe place. Dispose of the old VIP OS Restore CDs and the old VIP OS Restore diskettes #1 - #3. Continue to store VIP OS Restore diskette #4 in a safe place.
 3. Steps 1 through 22 will restore the hard drive image.

1. **Press the Power Button** on the VIP computer to power up the computer. **When the “F2 = Setup” message is displayed in the upper right corner of the screen, press the F2 function key to display the computer BIOS settings.**
2. Insert the **VIP OS Restore #1** CD into the CD drive and close it. Make sure no floppy is in the A: drive.
3. Use the **down arrow key** to move the blue selection bar to the **Boot Sequence** and press **<Enter>** to display the boot sequence.
4. The *IDE CD-ROM Device* needs to be **enabled** (indicated by a check mark to the left of the device name) and it needs to be listed **before** the *Hard-Disk-Drive C:.* If both these conditions are satisfied, press the **Esc** key twice and skip to step 10. Otherwise, continue with the following steps.
5. **Use the down arrow key** to move the blue selection bar to the **IDE CD-ROM Device.**
6. If the CD device is **enabled** (check mark), skip to step 7. Otherwise, change disabled (no check mark) to enabled (check mark) by **pressing the space bar once.**

7. If the *IDE CD-ROM Device* is listed **before** the *Hard-Disk-Drive C:*, skip to step 8. Otherwise, move the *IDE CD-ROM Device* to before the *Hard-Disk-Drive C:* by **using the minus key**.
8. **Press the Escape key twice** and a dialogue box is displayed asking if the changes should be saved.
9. Select **Save Changes and Exit** and press **<Enter>**.
10. The VIP will start booting from the CD. A black text screen will appear with the following prompt:
boot:
11. Enter the following at the prompt:
nuke noresize and press **<Enter>**.
12. A black text screen appears with the following:
Please specify an alternate tape device or hit [ENTER] to boot from CD/floppies.
13. Hit **<Enter>** to boot off the CD.
14. The Mondo Rescue application will start. It displays a blue text screen with the message *WELCOME TO MONDO RESCUE* at the top. A box labeled *Caution* with the warning *Be advised. I am about to ERASE your hard disks* appears. It contains a countdown timer bar. Allow this countdown to expire and wipe clean and restore your existing VIP hard drive. The restore process will proceed through several screens of formatting and restoring data.
15. The first CD takes about fifteen minutes to complete. At any time, if the screen becomes blank and black, it can be safely restored by **using the right arrow key**.
16. You will be prompted with a prompt box titled *Alert* with the text phrase *Please insert CDR#2 and press Enter*. If the CD drive does not open automatically, open the CD drive with the eject button and replace CD #1 with the one titled *VIP OS Restore #2 CD*. Push the tray button and press **<Enter>**.
17. Repeat step 9 for CDs 3 - 6. *VIP OS Restore #2 - #5 CDs* each take about 10 minutes to complete. #6 will take about 3 minutes. While the process is running, the screen will display messages *Restoring from archives* and *Reassembling large files*, each with a progress bar.
18. At the conclusion of the procedure, the following finished prompt in white text appears and the blue screen is pushed up by the black screen:

*To reboot press **CTRL-ALT-DEL** together*

Remove the final CD, close the CD drawer, and press **CTRL-ALT-DEL**

NOTE: 4. Sometimes the VIP will fail after the disk image has been restored. When the VIP starts booting, a “kernel panic” occurs. If this happens a simple and fast procedure exists to correct the problem.

19. The Red Hat Linux 7.3 Operating System begins to boot. If the VIP stops booting with a “kernel panic” error, use the procedure in steps 20 - 24 to recover. Otherwise skip to step 25.

20. Place the *VIP OS Restore #1 CD* in the VIP CD tray. Power down and power up the VIP.

NOTE: 5. Be prepared to **quickly** enter the next command at the *boot:* prompt.

21. Type **expert** and press **<Enter>**. The rescue image begins booting and will stop with the following message:

*Please specify an alternate tape device,
or hit <Enter> to boot from the CD/floppies*

22. Press **<Enter>** again. The CD will finish booting. The VIP displays a black text screen with the following message:

*Pleas wait
sh: can't access tty; job control turned off
#*

23. At the pound sign prompt, type **post-nuke** and press **<Enter>**. The procedure will take about 2 seconds to run. When completed, the script will report that the post-nuke finished after displaying the partition table information.

24. Press the CD eject button to open the CD tray. Remove the CD. Press **CTRL-ALT-DEL** together to reboot the VIP.

NOTE: 6. If the *Welcome to Kudzu* screen appears, be prepared to quickly press the space bar.

25. The Red Hat Linux 7.3 Operating System will begin to boot. Prior to the login screen, a blue screen with a *Welcome to Kudzu* message may display. This is a timed screen, so do not delay. Immediately **press the space bar** to proceed. Both, one, or neither of the following two scenarios described in steps 26 and 27 may occur.

26. The *Hardware Removed* screen is displayed with the text *The following video adapter has been removed....* If this screen is not displayed, skip to step 27. Otherwise, your response will remove the hardware: Using the left and right arrow keys, select the *Remove Configuration* button and press **<Enter>**. You may next have a *Hardware Added* screen displayed for the nVidia Video Adapater. If not, proceed to the next step. Otherwise, your response will configure the video card: **Using the left and right arrow keys**, select the *Configure* button and press **<Enter>**.

27. The *Hardware Removed/Changed* screen is displayed with the text *The mouse has changed*. If this screen is not displayed, skip to step 28. Otherwise, your response will

keep the current configuration: **Using the left and right arrow keys**, select the *Keep current configuration* button and press **<Enter>**.

28. The system will continue booting. If a GUI Linux login screen appears, skip to step 31. If a GUI Linux login screen does not appear and instead a text login prompt appears, continue with steps 29 and 30 to reboot the system and try again.
29. At the login prompt, type **root** and enter the root password **nws2004** when prompted.
30. Type **/sbin/shutdown -r now** to shutdown the VIP and reboot. The system will continue booting, and a GUI Linux login screen appears.

NOTE: 7. Steps 31 through 42 will configure the VIP network address

31. At the VIP login screen, type **root** and press **Enter**.
32. Type root password **nws2004** and press **Enter**.
33. Click the **KDE Gear** icon in the lower left corner of the screen.
34. Click **System**.
35. Click **Network Configuration**.
36. In the *Network Configurator Window*, click on **Active eth0 device**.
37. Click **Edit**. Change the IP address and default Gateway value to match the VIP entry in the OMP */etc/hosts* file. For example, the entry at the NWSHQ Test Bed site is 165.92.20.121. Ensure the Netmask is **255.255.0.0**.
38. Click **OK**.
39. Click **Apply**.
40. Click **Deactivate**.
41. Click **Activate**.
42. Click **Close**.

NOTE: 8. Steps 43 through 57 will configure the site-specific IP addresses in the VIP hosts file and change VIP passwords.

43. Click the **KDE Gear** icon in the lower left area of the screen.
44. Click **Editors**.
45. Click **KEDit**.
46. Click **File**.
47. Click **Open**.
48. In the *Location* box, type **/etc/hosts**

49. Click **OK**. If there is a duplicate set of IP addresses, delete the second set.
50. Change the **entries** to match those for **VIP**, **OMP**, **5MP**, **as1**, and **as2** in the *OMP /etc/hosts* file. For example, the OMP entry at the NWSHQ Test Bed site is 165.92.20.111. Also, change the entry for **as1f** so it is consistent with the site's subnet.
51. Click **File** and select **Save**.
52. Click **File** and select **Quit**.
53. Click the **Shell** icon (lower left area of the screen) to open a *Shell* window.
54. To verify the */etc/hosts* file, type **ping OMP** and press **Enter**; then type **ping 5MP** and press **Enter**.

NOTE: 9. If you do **not** need to configure the remote SFTP function, skip step 55.

55. Type **chmod 666 /etc/hosts** and press **Enter** to allow you to configure the VIP for remote audio SFTP transmission.

NOTE: 10. Please observe the following rules when defining good passwords:

1. Password must have at least eight non-blank characters.
2. Password must contain at least one lower case alphabetic character.
3. Password must contain at least one upper case alphabetic character.
4. Password must contain at least one number.
5. Six of the characters may occur only once in the password.
6. Password must be changed at least every 90 days.
7. Password must not be used in the last 8 password changes.
8. Password cannot contain default passwords or words in dictionary.
- 9. No special characters are allowed.**

56. Create a crs user password by following the rules described above in Note 10:

- a. Type **su - crs** and enter the crs password **nws2004** when prompted. If the command hangs and no prompt is returned, open a shell terminal by clicking on the Konsole icon (fourth from the lower left in the display) and entering the commands in steps b and c. Otherwise skip to step d.
- b. Type **killall stty -s 9** to allow the command in step a to complete successfully.
- c. Type **exit** to close the shell terminal.
- d. Type **passwd** and follow the instructions to enter the same crs user password used for OMP.

- e. Type **exit** to exit the crs user.
- 57. Create a root user password by following the rules described above in Note 10: Type **passwd root** and follow the prompts to enter the same root password used for OMP.
- 58. End the root login session by clicking the KDE Gear icon in the lower left area of the screen.
- 59. Click **Logout**. The **End Session** for root window appears.
- 60. Click **OK** and the **VIP Login** window is displayed.

NOTE: 11. Steps 61 through 78 use the **VIP Setup Wizard** to enter installation and site information, CRS network information, voice settings, and if necessary, audio SFTP configuration.

- 61. From the **VIP Login** window, login as **crs** with the password set in step 56. Double-click the **Voice Improvement Processor Application** icon on the desktop. The **VIPv3.1 Setup Wizard Welcome** window displays.

NOTE: 12. The **Setup Wizard** will only appear the first time the user logs in with the **crs** user password. Once the information in the **Setup Wizard** is entered, double clicking on the **VIP Application** icon, will result in the display of the **main VIP** menu. This information may be edited using the **Systems Settings** window available from the **main VIP** menu.

- 62. Click **Next**. The **VIPv3.1 Setup Wizard: Step 1** window displays.

NOTE: 13. Parts of the VIP system contain licensed software. You must read and accept the Speechify licensing agreement. Since not all sites will use the .mp3 ftp capability, acquisition of this license is the responsibility of the site. Information is provided in the agreement about the acquisition of this optional and inexpensive license. **All sites must accept the Speechify licensing agreement to continue with the setup.**

- 63. Click the box next to the statement: "I understand the above disclaimer." and click **Next**. The **VIPv3.1 Setup Wizard: Step 2** window displays. Click **Next**.
- 64. Enter the installer's name in the **Name of installer box**.
- 65. Select your site name from the scrollable list of sites.

NOTE: 14. Only 13 of 122 operational sites are licensed to use the Spanish Male (Javier) VIP voice. The VIP software will not allow any other sites to use the Spanish VIP voice. The following are Spanish VIP sites:

LOX - Los Angeles, CA	LWX - Washington, D.C.	EWX - Austin, TX
MTR - Monterey, CA	MFL - Miami, FL	BRO - Brownsville, TX
STO - Sacramento, CA	PDT - Pendleton, OR	EPZ - El Paso, TX
SGX - San Diego, CA	CAE - Columbia, SC	SJU - San Juan, PR
HNX - San Joaquin, CA		

Sites that are not in the above list shall not use the VIP Spanish voice.

66. Click **Next**. The **VIPv3.1 Setup Wizard: Step 3** window displays.
67. Enter the IP addresses for both the CRS 0MP and 5MP. For the CRS user “crs” password box, enter **TEST**. With the change to SFTP file transfers between the Master MP, this password is no longer used and is just a dummy entry. However, it cannot be left blank.
68. If you intend to use the VIP audio SFTP function, you must also enter the Gateway IP address. This step is optional.
69. Click **Next**. The **VIPv3.1 Setup Wizard: Step 4** window displays. This window allows you to set the rate and volume of the Tom voice.
70. Use the slider bar to adjust the default 0 rate and volume of the Tom voice. To assist you in setting these values, two buttons are available to play and stop playing text in the window.
71. Click **Next**. The **VIPv3.1 Setup Wizard: Step 5** window displays. This window allows you to set the rate and volume of the Donna voice.
72. Use the slider bar to adjust the default 0 rate and volume of the Donna voice. To assist you in setting these values, two buttons are available to play and stop playing text in the window.

NOTE: 15. The **VIPv3.1 Setup Wizard: Step 6** window will only display for the Spanish VIP sites listed in the Note 14 box following step 65. All other sites should skip steps 73 and 74 below.

73. Click **Next**. The **VIPv3.1 Setup Wizard: Step 6** window displays. This window allows you to set the rate and volume of the Javier voice.
74. Use the slider bar to adjust the default 0 rate and volume of the Javier voice. To assist you in setting these values, two buttons are available to play and stop playing text in the window.

75. Click **Next**. The **VIPv3.1 Setup Wizard: Step 7** window displays. This window allows you to optionally configure the VIP for remote audio SFTP transmission.

NOTE: 16. Remote SFTP may be used to populate Web servers by providing audio for every message processed by VIP. Audio uploads are either 16 kHz, 16-bit multimedia wav files or mp3 files. **This is not a standard CRS function; if you wish to use this feature, it is strongly recommended that you first contact the regional AWIPS focal point for approval.** Otherwise, skip step 76.

76. Enter the **user, password, IP address, and upload directory** information for .wav file or .mp3 file. Then **select ON to activate this function**.

77. Click **Next**. The **VIPv3.1 Setup Wizard: Finished** window displays.

78. You have completed the VIP setup. Click **Finish**.

79. The **main VIP** menu displays.

NOTE: 17. If you did **not** configure the remote SFTP function, skip steps 80 - 84.

80. Click on the Konsole icon (fourth from the lower left in the display).

81. Type **su - root** and press **Enter**. When prompted, enter the root password and press **Enter**.

82. Type **chmod 644 /etc/hosts** and press **Enter** to change the permissions back.

83. Type **exit** and press **Enter** to exit the root user.

84. Type **exit** and press **Enter** to close the shell.

85. To run the VIP application, click **Start** on the **main VIP** menu.

86. At the **CRS Status** window on the CRS Master Console, verify that the VIP icon is a green arrow pointing up.

Z-1.2 Procedure 2 - Installation of SSH Keys

- NOTE:** 1. This procedure requires the AWIPS Key Files on a DOS formatted diskette. These should be produced by the AWIPS Focal Point prior to running this procedure (Section Z-1.2.1). IF AWIPS continues to use ftp to transmit messages to CRS (ssh and sftp have **not** been installed on AWIPS), a blank DOS formatted 1.44 mb diskette will be needed (Section Z-1.2.2). One or the other of these diskettes will be used in this procedure and be referred to in this document as the keyfile diskette.
- NOTE:** 2. When the VIP is restarted following the installation of the VIP 3.1 Build, authentication key pairs (public and private) are installed. These keys will be used for sftp transactions between the MPs and VIP.
- NOTE:** 3. The fixkey script is used in the following steps to copy keys to and from the keyfile diskette and the MPs and VIP. The steps that follow instruct the installer to open up UNIX shells on the VIP, 5MP, and 0MP respectively and start the fixkey script on all three processors. After each of the three processors have been set up to start copying the keys, the fixkey script will instruct the user to wait to make sure that the following five steps are performed in the proper order:
- #1. The diskette is placed in the 0MP diskette drive. If AWIPS public key files are present, they are copied to 0MP. If they are present, there can be as many as nine. If they are not present, the script displays a warning message to that effect. The 0MP host and crs user keys are copied to the diskette.
- #2. Step 1 is repeated for 5MP.
- #3. The diskette is placed in the VIP diskette drive. The 0MP and 5MP host and crs user keys are copied to the VIP. The VIP host and crs user keys are copied to the diskette. The VIP fingerprint report is copied to the diskette.
- #4. The diskette is placed in the 0MP diskette drive. The VIP host and crs user keys are copied to 0MP. The 0MP fingerprint report is copied to the diskette.
- #5. Step 4 is repeated for 5MP.
- Once the setup for the keyfiles is complete, the scripts can be started in the order described above.

- NOTE:** 4. The fingerprint report files shall be retained as a record of the authentication key generation. The keyfile diskette should be labeled, dated, and initialed. It should be stored in a secure manner in a locked container that is consistent with the DOC password hard copy storage requirements.

Z.1.2.1 Installation of SSH Keys If AWIPS Has the SFTP Capability Installed

- NOTE:** 1. AWIPS will not have the SFTP capability when CRS Build 10.0/VIP 3.1 is implemented. Until AWIPS uses SFTP to transmit messages to CRS, section Z.1.2.2 must be used instead of this section. However, this section will have to be performed when AWIPS adds the SFTP capability. The keyfile diskette must have the AWIPS Key Files already installed on it. Once AWIPS is using the SFTP capability to transmit messages to CRS, this section must always be performed to recover from a VIP operating system or application failure. Section Z.1.2.2 must only be performed if AWIPS is not using the SFTP capability to transmit messages to CRS.

1. If not already logged in as "crs" on the VIP, login as "crs". Click on the Konsole icon (fourth from the lower left in the display) to display a UNIX shell screen. Enter the following commands at the prompt:
2. **su - <Enter>** and type in the appropriate root password.

- NOTE:** 2. Make sure you do not press the <Enter> key to start copying the keys until this has been done for 0MP and 5MP (script steps #1 and #2 respectively).

3. **fixkeysv.sh <Enter>**

This will start the fixkey script described in Note 3 in Section Z.1.2 above. The following message will be displayed on the screen:

*Ready for Step #3 of fixkeysv.sh procedure running on system VIP.
This procedure sets up ssh configuration/key files in CRS/VIP.
If you did not want to run fixkeysv.sh use the CNTL-C key to exit.*

*First - did you complete Step #2 with the floppy on the 5mp computer?
At Step #3 place the keyfile diskette in the VIP floppy drive and press
ENTER:*

***** CAUTION: DO NOT PRESS THE <ENTER> KEY *****

NOTE: 3. The VIP is now set up to start the copying of the keys. **Make sure you do not press the <Enter> key to start the process until this has been done for 0MP and 5MP (script steps #1 and #2 respectively).**

4. **[CTRL] [CTRL]** This will move the video display, mouse, and keyboard to the 5MP.

NOTE: 4. The operator will open two UNIX shells. One will be used to run the fixkey script on 0MP. The other one will remote shell to 5MP to run the fixkey script there.

5. On the *CRS Main Menu*, click on the *Maintenance* menu and then click on *UNIX Shell* to open a UNIX Shell. Repeat this to open a second UNIX Shell. Position the two shells so that one is in the top half of the window and the second is in the bottom half.

6. Click on the bottom UNIX Shell and enter the following commands at the prompt:

7. **rsh 5mp <Enter>** This will remote shell to 5MP.

8. **su - <Enter>** and enter the root password.

NOTE: 5. Make sure you do not press the <Enter> key to start copying the keys until this has been done for 0MP (script step #1).

9. **/etc/config/fixkeys.sh <Enter>**

This will start the fixkey script described in Note 3 of Section Z.1.2 above. The following message will be displayed on the screen:

*Ready for Step #2 of fixkeys.sh procedure running on system 5MP.
This procedure sets up ssh configuration/key files in CRS/VIP.
If you did not want to run fixkeys.sh use the DELETE key to exit.*

*First - did you complete Step #1 with the floppy on the 0mp computer?
At Step #2 place the keyfile diskette in the 5MP floppy drive and press
ENTER:*

***** CAUTION: DO NOT PRESS THE <ENTER> KEY *****

NOTE: 6. The 5MP is now set up to start the copying of the keys. **Make sure you do not press the <Enter> key to start the process until this has been done for OMP (script step #1).**

10. Leave the 5MP UNIX Shell by clicking on the UNIX Shell in the top half of the window. This is the OMP window. Enter the following commands at the prompt:

11. **su - <Enter>** and type in the appropriate root password.

NOTE: 7. Make sure you do not press the <Enter> key to start copying the keys until the keyfile diskette has been inserted into the Omp diskette drive.

12. **/etc/config/fixkeys.sh <Enter>**

This will start the fixkey script described in Note 3 of Section Z.1.2 above. The following message will be displayed on the screen:

*Step #1 of fixkeys.sh procedure running on system OMP.
This procedure sets up ssh configuration/key files in CRS/VIP.
If you did not want to run fixkeys.sh use the DELETE key to exit.*

*If you have AWIPS keyfiles they should already be on your
dos format keyfile diskette. and then when you are ready for Step #1,
At Step #1 place the keyfile diskette in the OMP floppy drive and press
ENTER:*

NOTE: 8. All three processors are now set up to start the copying of the keys. You will proceed in the order (script steps #1 - #5) described above. The previous warnings to not press the <Enter> key allow for an orderly and proper installation. Any problems and/or operator errors in the following steps will cause the installation to be aborted.

13. Insert the keyfile diskette in the OMP diskette drive and press the <Enter> key to perform script step #1. The following message will be displayed on the screen:

*Step #1 in progress.
Deleting any awips.pub files not on the floppy already in /crs/.ssh.
CRS fixkeys.sh OMP Step #1 - awips pub file/s found, moved to /crs/.ssh .
Step #1 completed - now move the keyfile diskette to the
5mp computer floppy drive for Step #2.*

When ready for Step #4 after 5mp and vip steps,

At Step #4 replace the keyfile diskette in the 0MP floppy drive and Press ENTER:

14. Remove the keyfile diskette from the 0MP diskette drive and insert it into the 5MP diskette drive. Leave the 0MP UNIX Shell by clicking on the 5MP Unix Shell and press the **<Enter>** key to perform script step #2. The following message will be displayed on the screen:

*Step #2 in progress.
Deleting any awips.pub files not on the floppy already in /crs/.ssh.
CRS fixkeys.sh 5MP Step #2 - awips pub file/s found, moved to /crs/.ssh .*

Step #2 completed - now move the keyfile diskette to the vip computer floppy drive for Step #3.

*When ready for Step #5 after the vip Step #3,
At Step #5 replace the keyfile diskette in the 5MP floppy drive and press ENTER.*

15. Remove the keyfile diskette from the 5MP diskette drive and insert it into the VIP diskette drive. Press **[CTRL] [CTRL]** to return the video display, mouse, and keyboard to the VIP and press the **<Enter>** key to perform script step #3. The following message will be displayed on the screen:

*Step #3 in progress
CRS VIP fixkeysv.sh - 0mp pub file found.
CRS VIP fixkeysv.sh - 5mp pub file found.
CRS VIP fixkeysv.sh - 0mphostrsa.pub file found.
CRS VIP fixkeysv.sh - 5mphostrsa.pub file found.
Fixing /home/crs/.ssh/authorized_keys for 0mp and 5mp.
Fixing /etc/ssh/ssh_known_hosts with 0MP 5MP host info.
0mp host rsa pub key: /home/crs/.ssh/fprnt.VIP
5mp host rsa pub key: /home/crs/.ssh/fprnt.VIP
Stopping sshd
Starting sshd
Step #3 complete. VIP ssh key configuration done.
Remove floppy and take to 0mp for Step #4.
End fixkeysv.sh script Step III done, fingerprint report in
/home/crs/.ssh/fprnt.VIP.*

16. Press **[CTRL] [CTRL]** to return the video display, mouse, and keyboard to the MP.
17. Click on the 0MP UNIX Shell and move the keyfile diskette to the 0MP diskette drive. Press the **<Enter>** key to perform script step #4. The following message will be displayed on the screen:

Step #4 in progress.
CRS OMP fixkeys.sh - vip.pub file found.
CRS OMP fiskeys.sh - viphostrsa.pub file found.
Configuring AWIPS/CRS/VIP keydata on OMP.
Fixing /crs/.ssh/authorized_keys for awips and vip.
Fixing /usr/local/etc/ssh_known_hosts with vip host info.
OMP fingerprint report in /crs/.ssh/fprnt.OMP.
After Step #4 on Omp move floppy to 5mp for Step #5
Step #4 complete. OMP ssh key configuration done.

The error message will only occur if no AWIPS key file is found on the diskette.

18. Click on the 5MP UNIX Shell and move the keyfile diskette to the 5MP diskette drive. Press the **<Enter>** key to perform script step #5. The following message will be displayed on the screen:

Step #5 in progress.
CRS 5MP fixkeys.sh - vip.pub file found.
CRS 5MP fiskeys.sh - viphostrsa.pub file found.
Configuring AWIPS/CRS/VIP keydata on 5MP.
Fixing /crs/.ssh/authorized_keys for awips and vip.
Fixing /usr/local/etc/ssh_known_hosts with vip host info.
5MP fingerprint report in /crs/.ssh/fprnt.5MP.
Last step.
Step #5 complete. 5MP ssh key configuration done.

The error message will only occur if no AWIPS key file is found on the diskette.

19. Verify all the key files have been saved on the keyfile diskette by typing the following:

```
mdir a: >>temp.txt <Enter>
cat temp.txt
```

The following files should be displayed (with different date/time stamps):

```

Directory for A:/

Omp          pub      597   06-16-2004  9:04  Omp.pub
OMPHOS~1 PUB      218   06-16-2004  9:04  Omphostrsa.pub
stp1          0       06-16-2004  9:04  stp1
vip          pub     602   06-16-2004  14:14  vip.pub
5mp          pub     597   06-16-2004  9:14  5mp.pub
5MPHOS~1 PUB     218   06-16-2004  9:14  5mphostrsa.pub
stp2          0       06-16-2004  9:14  stp2
VIPHOS~1 PUB     223   06-16-2004  14:15  viphostrsa.pub
stp3          0       06-16-2004  14:15  stp3
fprnt      VIP     861   06-16-2004  14:15  fprnt.VIP
```


fprnt	0MP	667	06-16-2004	9:19	fprnt.0MP
stp4		0	06-16-2004	9:19	stp4
stp0		65	06-16-2004	9:20	stp0
fprnt	5MP	666	06-16-2004	9:20	fprnt.5MP
stp5		0	06-16-2004	9:20	stp5

In addition to the files listed above, there will be 0MP and 5MP AWIPS keyfiles.

20. **Remove keyfile diskette and label it, date it, and initial it. Store it in a locked, safe place in accordance with the DOC password security policy.** Type the following commands to close the 5MP UNIX Shell:

21. **exit <Enter>** To exit root user.

22. **exit <Enter>** To exit 5MP.

23. **exit <Enter>** To close shell.

24. Click on the 0MP UNIX Shell and enter the following commands to close it:

25. **exit <Enter>** To exit root user.

26. **exit <Enter>** To close shell.

27. Press **[CTRL] [CTRL]** to return the video display, mouse, and keyboard to the VIP.
Enter the following commands to close the VIP UNIX shell:

28. **exit <Enter>** To exit root user.

29. **exit <Enter>** To close shell.

NOTE: 9. To ensure proper SFTP file transfer from AWIPS to CRS, sites must have their AWIPS System Administrator create the appropriate known_hosts file on AWIPS. Generally, this is accomplished by performing a manual sftp command of a dummy file from AWIPS to both 0MP and 5MP. The appropriate AWIPS documentation should be consulted before doing this.

Z.1.2.2 Installation of SSH Keys If AWIPS Does Not Have the SFTP Capability Installed

NOTE: 1. AWIPS will not have the SFTP capability when CRS Build 10.0/VIP 3.1 is implemented. This section must be performed until AWIPS starts using the SFTP capability to transmit messages to CRS. The keyfile diskette must be a blank diskette.

1. If not already logged in as “crs” on the VIP, login as “crs”. Click on the Konsole icon (fourth from the lower left in the display) to display a UNIX shell screen. Enter the following commands at the prompt:
2. **su - <Enter>** and type in the appropriate root password.

NOTE: 2. Make sure you do not press the <Enter> key to start copying the keys until this has been done for OMP and 5MP (script steps #1 and #2 respectively).

3. **fixkeysv.sh <Enter>**

This will start the fixkey script described in Note 3 in Section Z.1.2 above. The following message will be displayed on the screen:

*Ready for Step #3 of fixkeysv.sh procedure running on system VIP.
This procedure sets up ssh configuration/key files in CRS/VIP.
If you did not want to run fixkeysv.sh use the CNTL-C key to exit.*

*First - did you complete Step #2 with the floppy on the 5mp computer?
At Step #3 place the keyfile diskette in the VIP floppy drive and press
ENTER:*

***** CAUTION: DO NOT PRESS THE <ENTER> KEY *****

NOTE: 3. The VIP is now set up to start the copying of the keys. **Make sure you do not press the <Enter> key to start the process until this has been done for OMP and 5MP (script steps #1 and #2 respectively).**

4. **[CTRL] [CTRL]** This will move the video display, mouse, and keyboard to the 5MP.

NOTE: 4. The operator will open two UNIX shells. One will be used to run the fixkey script on OMP. The other one will remote shell to 5MP to run the fixkey script there.

5. On the *CRS Main Menu*, click on the *Maintenance* menu and then click on *UNIX Shell* to open a UNIX Shell. Repeat this to open a second UNIX Shell. Position the two shells so that one is in the top half of the window and the second is in the bottom half.
6. Click on the bottom UNIX Shell and enter the following commands at the prompt:
7. **rsh 5mp <Enter>** This will remote shell to 5MP.

8. **su - <Enter>** and enter the root password.

NOTE: 5. Make sure you do not press the **<Enter>** key to start copying the keys until this has been done for OMP (script step #1).

9. **/etc/config/fixkeys.sh <Enter>**

This will start the fixkey script described in Note 3 of Section Z.1.2 above. The following message will be displayed on the screen:

*Ready for Step #2 of fixkeys.sh procedure running on system 5MP.
This procedure sets up ssh configuration/key files in CRS/VIP.
If you did not want to run fixkeys.sh use the DELETE key to exit.*

*First - did you complete Step #1 with the floppy on the 0mp computer?
At Step #2 place the keyfile diskette in the 5MP floppy drive and press
ENTER:*

***** CAUTION: DO NOT PRESS THE <ENTER> KEY *****

NOTE: 6. The 5MP is now set up to start the copying of the keys. **Make sure you do not press the <Enter> key to start the process until this has been done for OMP (script step #1).**

10. Leave the 5MP UNIX Shell by clicking on the UNIX Shell in the top half of the window. This is the OMP window. Enter the following commands at the prompt:

11. **su - <Enter>** and type in the appropriate root password.

NOTE: 7. Make sure you do not press the **<Enter>** key to start copying the keys until the keyfile diskette has been inserted into the 0mp diskette drive.

12. **/etc/config/fixkeys.sh <Enter>**

This will start the fixkey script described in Note 3 of Section Z.1.2 above. The following message will be displayed on the screen:

*Step #1 of fixkeys.sh procedure running on system OMP.
This procedure sets up ssh configuration/key files in CRS/VIP.*

If you did not want to run fixkeys.sh use the DELETE key to exit.

If you have AWIPS keyfiles they should already be on your dos format keyfile diskette. and then when you are ready for Step #1, At Step #1 place the keyfile diskette in the OMP floppy drive and press ENTER:

NOTE: 8. All three processors are now set up to start the copying of the keys. You will proceed in the order (script steps #1 - #5) described above. The previous warnings to not press the **<Enter>** key allow for an orderly and proper installation. Any problems and/or operator errors in the following steps will cause the installation to be aborted.

13. Insert the keyfile diskette in the OMP diskette drive and press the **<Enter>** key to perform script step #1. The following message will be displayed on the screen:

*Step #1 in progress.
Deleting any awips.pub files not on the floppy already in /crs/.ssh.
WARNING: The AWIPS keyfile not found. You will have no AWIPS SFTP.
This is only proper if your AWIPS has not yet implemented ssh.
When AWIPS has ssh and a keyfile this procedure must be rerun.
At that time the files should be on the keyfile floppy as awips#.pub
- for example awips1.pub. Multiple files each with a single public
key are allowed - the floppy may have awips1.pub and awips2.pub.
Please see your CRS/VIP Software Installation Procedure for further
information.
Remaining CRS/VIP key installation without AWIPS will proceed if you
press ENTER. Otherwise use DELETE/CNTRL -C to stop fixkeys procedure
on all boxes and start again with a corrected floppy.*

NOTE: 9. This section is only performed if AWIPS is not using the SFTP capability to transfer messages to CRS. Therefore, do not be concerned with this warning message. It is normal and to be expected.

14. Press **<Enter>** to resume copying the keyfiles. The following message will be displayed on the screen:

*Step #1 completed - now move the keyfile diskette to the
5mp computer floppy drive for Step #2.*

*When ready for Step #4 after 5mp and vip steps,
At Step #4 replace the keyfile diskette in the OMP floppy drive and
press ENTER:*

15. Remove the keyfile diskette from the 0MP diskette drive and insert it into the 5MP diskette drive. Leave the 0MP UNIX Shell by clicking on the 5MP Unix Shell and press the **<Enter>** key to perform script step #2. The following message will be displayed on the screen:

*WARNING: The AWIPS keyfile not found. You will have no AWIPS SFTP.
This is only proper if your AWIPS has not yet implemented ssh.
When AWIPS has ssh and a keyfile this procedure must be rerun.
At that time the files should be on the keyfile floppy as awips#.pub
- for example awips1.pub. Multiple files each with a single public
key are allowed - the floppy may have awips1.pub and awips2.pub.
Please see your CRS/VIP Software Installation Procedure for further
information.
Remaining CRS/VIP key installation without AWIPS will proceed if you
press ENTER. Otherwise use DELETE/CNTRL -C to stop fixkeys procedure
on all boxes and start again with a corrected floppy.*

NOTE: 10. This section is only performed if AWIPS is not using the SFTP capability to transfer messages to CRS. Therefore, do not be concerned with this warning message. It is normal and to be expected.

16. Press **<Enter>** to resume copying the keyfiles. The following message will be displayed on the screen:

*Step #2 completed - now move the keyfile diskette to
the vip computer floppy drive for Step #3.*

*When ready for Step #5 after the vip Step #3,
At Step #5 replace the keyfile diskette in the 5MP floppy drive and
press ENTER:*

17. Remove the keyfile diskette from the 5MP diskette drive and insert it into the VIP diskette drive. Press **[CTRL] [CTRL]** to return the video display, mouse, and keyboard to the VIP and press the **<Enter>** key to perform script step #3. The following message will be displayed on the screen:

*Step #3 in progress
CRS VIP fixkeysv.sh - 0mp pub file found.
CRS VIP fixkeysv.sh - 5mp pub file found.
CRS VIP fixkeysv.sh - 0mphostrsa.pub file found.
CRS VIP fixkeysv.sh - 5mphostrsa.pub file found.
Fixing /home/crs/.ssh/authorized_keys for 0mp and 5mp.
Fixing /etc/ssh/ssh_known_hosts with 0MP 5MP host info.*

*Omp host rsa pub key: /home/crs/.ssh/fprnt.VIP
5mp host rsa pub key: /home/crs/.ssh/fprnt.VIP
Stopping sshd
Starting sshd
Step #3 complete. VIP ssh key configuration done.
Remove floppy and take to Omp for Step #4.
End fixkeysv.sh script Step III done, fingerprint report in
/home/crs/.ssh/fprnt.VIP.*

18. Press **[CTRL] [CTRL]** to return the video display, mouse, and keyboard to the MP.
19. Click on the 0MP UNIX Shell and move the keyfile diskette to the 0MP diskette drive. Press the **<Enter>** key to perform script step #4. The following message will be displayed on the screen:

*Step #4 in progress.
CRS 0MP fixkeys.sh - vip.pub file found.
CRS 0MP fiskeys.sh - viphostrsa.pub file found.
Configuring AWIPS/CRS/VIP keydata on 0MP.
Fixing /crs/.ssh/authorized_keys for awips and vip.
UX:LS: ERROR: Cannot access /crs/.ssh/awips*.pub: No such file or directory
Fixing /usr/local/etc/ssh_known_hosts with vip host info.
0MP fingerprint report in /crs/.ssh/fprnt.0MP.
After Step #4 on Omp move floppy to 5mp for Step #5
Step #4 complete. 0MP ssh key configuration done.*

The error message will only occur if no AWIPS key file is found on the diskette.

20. Click on the 5MP UNIX Shell and move the keyfile diskette to the 5MP diskette drive. Press the **<Enter>** key to perform script step #5. The following message will be displayed on the screen:

*Step #5 in progress.
CRS 5MP fixkeys.sh - vip.pub file found.
CRS 5MP fiskeys.sh - viphostrsa.pub file found.
Configuring AWIPS/CRS/VIP keydata on 5MP.
Fixing /crs/.ssh/authorized_keys for awips and vip.
UX:LS: ERROR: Cannot access /crs/.ssh/awips*.pub: No such file or directory
Fixing /usr/local/etc/ssh_known_hosts with vip host info.
5MP fingerprint report in /crs/.ssh/fprnt.5MP.
Last step.
Step #5 complete. 5MP ssh key configuration done.*

The error message will only occur if no AWIPS key file is found on the diskette.

21. Verify all the key files have been saved on the keyfile diskette by typing the following:

```
mdir a: >>temp.txt <Enter>
cat temp.txt
```

The following files should be displayed (with different date/time stamps):

```
Directory for A:/

Omp          pub      597   06-16-2004  9:04   0mp.pub
0MPHOS~1PUB          218   06-16-2004  9:04   0mphostrsa.pub
stp1          0       06-16-2004  9:04   stp1
vip          pub     602   06-16-2004  14:14   vip.pub
5mp          pub     597   06-16-2004  9:14   5mp.pub
5MPHOS~1PUB          218   06-16-2004  9:14   5mphostrsa.pub
stp2          0       06-16-2004  9:14   stp2
VIPHOS~1PUB          223   06-16-2004  14:15   viphostrsa.pub
stp3          0       06-16-2004  14:15   stp3
fprnt      VIP      861   06-16-2004  14:15   fprnt.VIP
fprnt      OMP      667   06-16-2004  9:19   fprnt.OMP
stp4          0       06-16-2004  9:19   stp4
stp0          65      06-16-2004  9:20   stp0
fprnt      5MP      666   06-16-2004  9:20   fprnt.5MP
stp5          0       06-16-2004  9:20   stp5
```

22. **Remove keyfile diskette and label it, date it, and initial it. Store it in a locked, safe place in accordance with the DOC password security policy.** Type the following commands to close the 5MP UNIX Shell:

23. **exit <Enter>** To exit root user.

24. **exit <Enter>** To exit 5MP.

25. **exit <Enter>** To close shell.

26. Click on the 0MP UNIX Shell and enter the following commands to close it:

27. **exit <Enter>** To exit root user.

28. **exit <Enter>** To close shell.

29. Press **[CTRL] [CTRL]** to return the video display, mouse, and keyboard to the VIP.
Enter the following commands to close the VIP UNIX shell:

30. **exit <Enter>** To exit root user.

31. **exit <Enter>** To close shell.

Z-1.2.3 VIP Remote SFTP

NOTE: * FOR USERS OF the VIP REMOTE SFTP ONLY *****

All the VIP Remote FTP users must convert to a standard configuration supported by CRS B10/VIPB3.1. The VIP B3.1 requires sites to dump the VIP messages to the LDAD Server (LS1), and then either push them out to the external system or have the external system retrieve them from LS1. This section provides step-by-step instructions to accomplish this. However, it will be each site's responsibility to move the messages from LS1 to the external system.

Users of the VIP Remote SFTP (formerly Remote SFTP) capability must copy the **vip.pub** key on the keyfile diskette from the previous steps to the LS1.

The operator should coordinate this step with the LS1 System Administrator.

1. Create **crs** user account on the LS1.
2. Log on the LS1 as **crs**.
3. Verify the **/home/crs/.ssh** directory exists with protection of **700**.
4. If the directory does not exist, create one with the following instructions:

```
mkdir /home/crs/.ssh
chmod 700 /home/crs/.ssh
```

5. Verify the **authorized_keys** file exists on **/home/crs/.ssh**.
6. If the **authorized_keys** file exists, remove it with the following instructions:

```
rm /home/crs/.ssh/authorized_keys
```

7. Create new **authorized_keys** file by copying the **vip.pub** file from the keyfile diskette to **/home/crs/.ssh/authorized_keys** on LS1. No specific instructions for doing this are included; each site may determine the most appropriate manner to accomplish this task.
8. Create an entry for the LDAD server in the VIP routing table by doing the following at the VIP:

NOTE: (cont.)

Click the **KDE Gear**

Click **System**

Click **Network Configuration**

Select **Active etho device**

Click **Edit**

Click **route** tab and click on **add**

Fill out the **Address**, **Subnet Mask**, and **Gateway IP Address** boxes. The **Address** is the LS1 IP Address. The **Subnet Mask** is 255.255.255.255. The **Gateway IP Address** is the site's Gateway IP Address.

Click on **OK** twice, **Apply**, and **Close**.

9. Restart the network by doing the following at the VIP:

Click on the Konsole icon (fourth from the lower left in the display).

Type **su -** and when prompted, enter the root password.

Type **service network restart**. The system will return several network interface messages.

Type **exit** to exit the root user.

10. Additionally, the operator must approve the remote fingerprint of the target system by doing the following at the VIP:

Type **sftp xxx.xxx.xxx.xxx** where xxx.xxx.xxx.xxx is the LS1 IP address

The operator will be asked "*Is this host key ok?*"

The operator should answer **yes**. This will add the LS1 host to the **known_hosts** file on the VIP.

Type **exit** to close the shell.

Logons and transfers into VIP from outside of CRS are not authorized to be added to the VIP computer. Likewise, outside generated public keys are **NOT** to be added to the VIP computer.

Z-1.3 Procedure 3 - Backup Pre-Processor Substitution Dictionaries

1. Place a blank formatted diskette in the VIP drive. From the main VIP menu, click on the **Pre-Processor** button. This will display the *Pre-Processor "Substitution Dictionary" Manager*.

2. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **English Male Substitution Dictionary <Tom>**.
3. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Save Current Substitution Dictionary To Floppy Disk**.
4. A Dialog Box is displayed that asks: *Save the "Tom Substitution" dictionary to floppy disk?* Click on the **Yes** button.
5. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File Transfer Successful! File saved on floppy as: "tom-sub.dic"*. Click on the **OK** button.
6. Remove the **tom-sub.dic** diskette from the drive, label it as **tom-sub.dic**, and keep it in a safe place. It will be used if you need to restore the English Male Substitution Dictionary. Please note that the operator has no choice in the name of the backup file; it will always be *tom-sub.dic*.
7. Place a blank formatted diskette in the drive. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **English Female Substitution Dictionary <Donna>**.
8. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Save Current Substitution Dictionary To Floppy Disk**.
9. A Dialog Box is displayed that asks: *Save the "Donna Substitution" dictionary to floppy disk?* Click on the **Yes** button.
10. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File Transfer Successful! File saved on floppy as: "mara-sub.dic"*. Click on the **OK** button.
11. Remove the **mara-sub.dic** diskette from the drive, label it as **mara-sub.dic**, and keep it in a safe place. It will be used if you need to restore the English Female Substitution Dictionary. Please note that the operator has no choice in the name of the backup file; it will always be *mara-sub.dic*. If you do not have a Spanish license, skip to step 17.
12. Place a blank formatted diskette in the drive. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Spanish Male Substitution Dictionary <Javier>**.
13. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Save Current Substitution Dictionary To Floppy Disk**.
14. A Dialog Box is displayed that asks: *Save the "Javier Substitution" dictionary to floppy disk?* Click on the **Yes** button.
15. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File Transfer Successful! File saved on floppy as: "javier-sub.dic"*. Click on the **OK** button.

16. Remove the **javier-sub.dic** diskette from the drive, label it as **javier-sub.dic**, and keep it in a safe place. It will be used if you need to restore the Spanish Male Substitution Dictionary. Please note that the operator has no choice in the name of the backup file; it will always be *javier-sub.dic*.
17. Click on the **black x** to exit from the *Pre-Processor "Substitution Dictionary" Manager* window.

Z-1.4 Procedure 4 - Backup Local Dictionaries

1. Place a blank formatted diskette in the drive. From the main VIP menu, click on the **Dict Manager** button. This will display the *Local Dictionary Manager*.
2. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **English Male Dictionary <Tom>**.
3. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Save Current Dictionary To Floppy Disk**.
4. A Dialog Box is displayed that asks: *Save the "Tom" dictionary to floppy disk?* Click on the **Yes** button.
5. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File Transfer Successful! File saved on floppy as: "tom-root.dic"*. Click on the **OK** button.
6. Remove the **tom-root.dic** diskette from the drive, label it as **tom-root.dic**, and keep it in a safe place. It will be used if you need to restore the English Male Local Dictionary. Please note that the operator has no choice in the name of the backup file; it will always be *tom-root.dic*.
7. Place a blank formatted diskette in the drive. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **English Female Dictionary <Donna>**.
8. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Save Current Dictionary To Floppy Disk**.
9. A Dialog Box is displayed that asks: *Save the "Donna" dictionary to floppy disk?* Click on the **Yes** button.
10. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File Transfer Successful! File saved on floppy as: "mara-root.dic"*. Click on the **OK** button.
11. Remove the **mara-root.dic** diskette from the drive, label it as **mara-root.dic**, and keep it in a safe place. It will be used if you need to restore the English Female Local Dictionary. Please note that the operator has no choice in the name of the backup file; it will always be *mara-root.dic*. If you do not have a Spanish license, skip to step 17.
12. Place a blank formatted diskette in the drive. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Spanish Male Dictionary <Javier>**.

13. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Save Current Dictionary To Floppy Disk**.
14. A Dialog Box is displayed that asks: *Save the "Javier" dictionary to floppy disk?* Click on the **Yes** button.
15. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File Transfer Successful! File saved on floppy as: "javier-root.dic"*. Click on the **OK** button.
16. Remove the **javier-root.dic** diskette from the drive, label it as **javier-root.dic**, and keep it in a safe place. It will be used if you need to restore the Spanish Male Local Dictionary. Please note that the operator has no choice in the name of the backup file; it will always be *javier-root.dic*.
17. Click on the **black x** to exit from the *Pre-Processor "Dictionary" Manager* window.

Z-1.5 Procedure 5 - Procedure to Recover Pre-Processor Substitution Dictionaries

1. Place the diskette labeled **tom-sub.dic** in the drive. From the main VIP menu, click on the **Pre-Processor** button. This will display the *Pre-Processor "Substitution Dictionary" Manager*.
2. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **English Male Substitution Dictionary <Tom>**.
3. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Restore Current Substitution Dictionary From Floppy Disk**.
4. A Dialog Box is displayed that asks: *Retrieve the "Tom Substitution" dictionary from floppy disk?* Click on the **Yes** button.
5. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File upload complete for "tom-sub.dic"*. Click on the **OK** button.
6. Remove the **tom-sub.dic** diskette from the drive and keep it in a safe place. It will be used again if you need to restore the English Male Substitution Dictionary.
7. Place the diskette labeled **mara-sub.dic** in the drive. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **English Female Substitution Dictionary <Donna>**.
8. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Restore Current Substitution Dictionary From Floppy Disk**.
9. A Dialog Box is displayed that asks: *Retrieve the "Donna Substitution" dictionary from floppy disk?* Click on the **Yes** button.
10. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File upload complete for "mara-sub.dic"*. Click on the **OK** button.

11. Remove the **mara-sub.dic** diskette from the drive and keep it in a safe place. It will be used again if you need to restore the English Female Substitution Dictionary. If you do not have a Spanish license, skip to step 17.
12. Place the diskette labeled **javier-sub.dic** in the drive. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Spanish Male Substitution Dictionary <Javier>**.
13. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Restore Current Substitution Dictionary From Floppy Disk**.
14. A Dialog Box is displayed that asks: *Retrieve the "Javier Substitution" dictionary from floppy disk?* Click on the **Yes** button.
15. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File upload complete for "javier-sub.dic"*. Click on the **OK** button.
16. Remove the **javier-sub.dic** diskette from the drive and keep it in a safe place. It will be used again if you need to restore the Spanish Male Substitution Dictionary. Please note that the operator has no choice in the name of the backup file; it will always be *javier-sub.dic*.
17. Click on the **black x** to exit from the *Pre-Processor "Substitution Dictionary" Manager* window.

Z-1.6 Procedure 6 - Recover Local Dictionaries

1. Place the diskette labeled **tom-root.dic** in the drive. From the main VIP menu, click on the **Dict Manager** button. This will display the *Local Dictionary Manager*.
2. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **English Male Dictionary <Tom>**.
3. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Restore Current Dictionary From Floppy Disk**.
4. A Dialog Box is displayed that asks: *Retrieve the "Tom" dictionary from floppy disk?* Click on the **Yes** button.
5. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File upload complete for "tom-root.dic"*. Click on the **OK** button.
6. Remove the **tom-root.dic** diskette from the drive and keep it in a safe place. It will be used again if you need to restore the English Male Local Dictionary.
7. Place the diskette labeled **mara-root.dic** in the drive. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **English Female Dictionary <Donna>**.
8. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Restore Current Dictionary From Floppy Disk**.

9. A Dialog Box is displayed that asks: *Retrieve the "Donna" dictionary from floppy disk?* Click on the **Yes** button.
10. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File upload complete for "mara-root.dic"*. Click on the **OK** button.
11. Remove the **mara-root.dic** diskette from the drive and keep it in a safe place. It will be used again if you need to restore the English Female Local Dictionary. If you do not have a Spanish license, skip to step 17.
12. Place the diskette labeled **javier-root.dic** in the drive. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Spanish Male Dictionary <Javier>**.
13. Click on **Options**, which displays a *pull down* menu. From the pull down menu, click on **Restore Current Dictionary From Floppy Disk**.
14. A Dialog Box is displayed that asks: *Retrieve the "Javier" dictionary from floppy disk?* Click on the **Yes** button.
15. A successful transfer of the dictionary will cause a *Dialog Box* to display with the following message: *File upload complete for "javier-root.dic"*. Click on the **OK** button.
16. Remove the **javier-sub.dic** diskette from the drive and keep it in a safe place. It will be used again if you need to restore the Spanish Male Local Dictionary. Please note that the operator has no choice in the name of the backup file; it will always be *javier-sub.dic*.
17. Click on the **black x** to exit from the *Local Dictionary Manager* window.

Z-1.7 Procedure 7 - Shutdown VIP Remotely

1. From the *CRS Main* menu, click on **Maintenance**, and click on **UNIX shell**. A *UNIX shell* window is displayed.
2. In the *shell* window, type `telnet vip` and press the **<Enter>** key.
3. Login as **crs** and enter the correct VIP crs **password**. If no logon prompt appears in two minutes and the VIP was unresponsive from its local console, the VIP is hung and a powerdown is the only alternative.
4. Type `su -` and enter the correct VIP root **password**.
5. Type `/sbin/shutdown -h now` and press the **<Enter>** key.
6. The VIP will shut down and power down automatically. The KVM switch should be in the proper position to observe the VIP shutdown from the shared monitor. If the VIP does not begin to shut down in two minutes, this procedure has failed, and a powerdown is the only alternative.
7. **Power up** the VIP when you are ready to restart.